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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,383	01/14/2004	James J. Jaklitsch	13346-191189	1860
26694	7590	04/05/2005	EXAMINER	
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP			GUADALUPE, YARITZA	
P.O. BOX 34385			ART UNIT	
WASHINGTON, DC 20043-9998			PAPER NUMBER	

2859

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/756,383	JAKLITSCH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yaritza Guadalupe McCall	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-8 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/22/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

In response to Election filed March 7, 2005

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on April 22, 2004 is being considered by the examiner.

### ***Election/Restrictions***

2. Applicant's election with traverse of the invention of Group I, in the reply filed on March 7, 2005 is acknowledged. The traversal is on the ground(s) that 1) a reference coordinate frame is related to the invention and 2) a reference coordinate frame may be utilized in conjunction with the gyroscopic system. This is not found persuasive because even if a reference coordinate frame is related to the invention, the invention of Group I does not requires it use and Applicant even acknowledges that may be utilized, in other words, it may or may not be used. Moreover, the field of search is different for Groups I and II as stated in the previous Office Action, thus creating a serious burden on the Examiner, having to search all the features or limitations directed to the different inventions. When searching only the elected invention, there will not be a need to search for features not stated in the elected invention, thus reducing the workload and simplifying the prosecution of the application. Also, the claims cannot be considered as merely a

Art Unit: 2859

variation in the scope since each Group is clearly directed to a different invention requiring different features or limitations. For example, an invention directed to a method for determining a reference coordinate system is completely independent from an invention directed to gyroscopic system.

The restriction requirement is still deemed proper and is therefore made FINAL.

3. Accordingly, claims 9 - 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on March 7, 2005.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

5. Figures 1 - 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37

Art Unit: 2859

CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 8 and 19 - 22 are rejected under 35 U.S.C. 102 ( b ) as being anticipated by Hamilton et al. ( US 5,438,404 ).

With respect to the method steps as stated in claim 8, the system disclosed by Hamilton et al. is capable of performing the method for aligning a device with respect to a reference line by transferring parallel and non-parallel lines ( See Column 20, lines 3 – 5 ), including the steps of aligning a stationary inertial sensor with respect to said reference line ( See Column 20, lines 6 - 7 ); projecting an electromagnetic beam from a portable inertial sensor to a mirror coupled to said stationary inertial sensor and detecting the angle of the reflected beam ( See Column 20, lines 8 – 11 ); determining the relative position of said portable inertial sensor with respect to

Art Unit: 2859

said stationary inertial sensor using the detected angle ( See Column 20, lines 12 – 14 ) and output data from each of a pair of gyroscopic sensors provided in said stationary and said portable inertial sensors ( See Column 20, lines 14 - 16 ); aligning said portable inertial sensor with respect to said device ( See Column 20, lines 17 – 18 ), and calculating the position of said device with respect to said reference line using said detected angle and said output data ( See Column 20, lines 19 – 21 ).

In regards to claim 19, the system disclosed by Hamilton et al. will perform a method for aligning a device comprising the step of aligning a stationary inertial sensor with respect to said reference line ( See Column 20, lines 6 – 7 ); projecting an electromagnetic beam from a portable inertial sensor to a mirror coupled to said stationary inertial sensor and detecting the angle of the reflected beam ( See Column 20, lines 8 – 11 ); determining the relative position of said portable inertial sensor with respect to said stationary inertial sensor using the detected angle and output data from a first gyroscope provided in said stationary inertial sensor and a second gyroscope provided in said portable inertial sensor ( See Column 20, lines 12 – 16 ); and controlling a two-axis gimbaled platform carrying circuitry for generating the electromagnetic beam to orient the platform ( See Column 20, lines 22 – 28 ).

With respect to the method of claim 20, the system disclosed by Hamilton et al. further comprises the step of calculating the position of said device with respect to said reference line using said detected angle and said output data ( See Column 20, lines 19 – 21 ).

Art Unit: 2859

In regards to claim 21, the system shown by Hamilton et al. will also allow for the method comprising the step of mounting the first inertial sensor to the device at a predetermined angle offset from said reference line; and determining the relative orientations of said first and second inertial sensors with respect to each other taking into account the predetermined angle offset ( See Column 16, lines 30 – 43 ).

Regarding claim 22, the system of Hamilton et al. will perform the method comprising the step of receiving a trigger signal from an operator ( See Column 12, lines 48 – 56 ); and using an orientation of the second inertial sensor as a starting position for an optical search.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 – 7 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hamilton et al. ( US 5,619,323 ) in view Ellington et al. ( US 6,396,235 ).

With respect to claim 1, Hamilton et al. discloses a gyroscopic system for translating parallel and non-parallel lines between a reference line and a device to be aligned with respect to the reference line, comprising a first inertial sensor configured to be substantially stationary ( See Column 20, lines 54 – 59 ), said first inertial sensor comprising a first three-axis gyroscopic sensor ( See Column 6, line 21 ) configured to produce an output signal and a reflector / mirror (61); a second inertial sensor configured to be portable ( See Column 20, lines 60 – 64 ) so as to be positionable adjacent to said first inertial sensor and comprising a gimbal and a gimbal drive system ( See Column 11, lines 22 – 38 ), an electromagnetic energy beam generator ( See Column 22, lines 17 – 18 ), a second three-axis gyroscopic sensor ( See Column 21, lines 29 – 32) configured to generate an output signal, and a collimator ( See Column 22, lines 19 – 20 ), said collimator being operable to determine an angle between a beam projected by said beam generator and a beam reflected from said reflector and to generate an output signal indicative of said determined angle; and a control circuit ( 68 ) operable to process output signals generated by said collimator and said first and second three-axis gyroscopic sensors and determine relative orientations of said first and second inertial sensors with respect to each other ( See Columns 13 - 14, lines 42 – 67 and 1 – 7 respectively ).

In regards to claim 2, Hamilton et al. discloses a gyroscopic system wherein the control circuit ( 68 ) outputs a control signal to the gimbal to hold it in a fixed orientation with respect to the first inertial sensor ( See Column 11, lines 39 – 48 ).



Regarding claim 3, the system disclosed by Hamilton et al. further comprises a display unit ( 66 ) receiving operator input and communicating with the control circuit ( See Column 14, lines 9 – 25 ).

With respect to claim 4, the system shown by Hamilton et al. further teaches an adapter coupled to the first inertial sensor for mounting the first inertial sensor to a vehicle and configured to hold the first inertial sensor at a predetermined angle offset from said reference line ( See Columns 7 and 8, lines 1 – 24, 40 - 42 and 11 – 13 respectively ).

In regards to claim 5, the system disclosed by Hamilton et al. teaches a control circuit (68) being operable to determine the relative orientations of said first and second inertial sensors with respect to each other taking into account the predetermined angle offset ( See Column 13, lines 48 – 53 ).

Regarding claim 6, Hamilton et al. discloses a system further comprising a second reflector/mirror ( 61, 62, 86, 134, 136 ) mountable on advice at a predetermined angle offset from the reference line; and wherein said second inertial sensor is configured to generate an output signal indicative of said determined angle and to determine a second angle between a beam projected by said beam generator and a beam reflected from the second reflector to generate an output signal indicative of said second angle ( See Column 24, lines 19 – 25 ).

With regards to claim 7, the system disclosed by Hamilton et al. teaches said control circuit being operable to use said gyroscope output signals and data relating to the position of said gimbal relative to said reference line to determine the orientation of said device with respect to said reference line ( See Column 13, lines 42 – 67 ).

Hamilton et al. does not disclose a gimbal restricted to two physical axes as stated in claim 1.

In regards to the gimbal as stated in claim 1 : Hamilton et al. discloses a gyroscopic system comprising a three-axis gimbal ( See Column 11, lines 28 – 29 ). Ellington et al. discloses a gimbal system for use on commercial or military vehicles comprising a two axis gimbal ( 10 ) that is usable with a variety of sensors ( See Column 1, lines 62 – 67 ), such as three gyroscopic sensors ( See Column 2, lines 9 – 13 ), for automatically stabilize the sensors and capable of boresighting the sensors and retain the boresight information thereafter ( See Column 2, lines 43 – 48 ). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the gimbal disclosed by Hamilton et al. with a two axis gimbal as taught by Ellington et al. in order to simplify the stabilization of the sensors by simplifying the measurements and calculations two only two axes.

***Allowable Subject Matter***

10. Claims 15 – 18 are allowed.

*Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are considered of relevance to the present application :

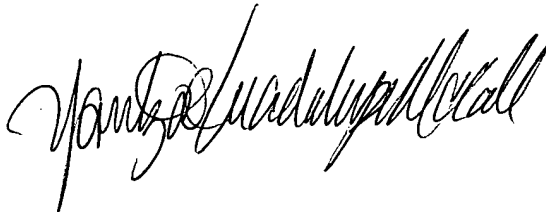
- a. Hoffman ( US 4,270,387 )
- b. Russell et al. ( US 4,756,088 )
- c. Brook ( US 4,180,916 )
- d. Levine et al. ( US 4,472,978 )
- e. Thomas et al. ( US 4,155,096 )
- f. Schulien et al. ( US 4,443,952 )
- g. Ash et al. ( US Pub. No. 2005/0022402 )
- h. Rodloff et al. ( US 5,408,751 )

12 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2859

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Yaritza Guadalupe-McCall', is positioned above the printed name.

Yaritza Guadalupe-McCall  
Patent Examiner  
Art Unit 2859

YGM  
March 29, 2005